Sequence Comparison 'A'

RESULT 1
AAG80968
ID AAG80968 standard; protein; 346 AA.
XX
AC AAG80968;
XX
DT 28-AUG-2001 (first entry)
XX
DE Human nGPCR11 #2.
XX
KW G protein-coupled receptor; nGPCR; seven transmembrane receptor;
KW signal transduction; schizophrenia; thyroid disorder; renal failure;
KW rheumatoid arthritis; CNS disorder; infection; metabolic disease;
KW cardiovascular disease; proliferative disorder; hormonal disorder;
KW neurological disorder; neuronal disorder; Alzheimer's disease; cancer;
KW attention deficit-hyperactivity disorder/attention deficit disorder;
KW Parkinson's disease; migraine; senile dementia; inflammatory disease;
KW rheumatoid arthritis; autoimmune disorder; respiratory ailment;
KW neuroprotective.
XX
OS Homo sapiens.
XX
PN WO200136473-A2.
XX
PD 25-MAY-2001.
XX
PF 16-NOV-2000; 2000WO-US031581.
XX
PR 16-NOV-1999; 99US-0165838P.
PR 17-NOV-1999; 99US-0166071P.
PR 19-NOV-1999; 99US-0166678P.
PR 28-DEC-1999; 99US-0173396P.
PR 22-FEB-2000; 2000US-0184129P.
PR 28-FEB-2000; 2000US-0185421P.
PR 28-FEB-2000; 2000US-0185554P.
PR 02-MAR-2000; 2000US-0186530P.
PR 03-MAR-2000; 2000US-0186811P.
PR 09-MAR-2000; 2000US-0188114P.
PR 17-MAR-2000; 2000US-0190310P.
PR 21-MAR-2000; 2000US-0190800P.
PR 20-APR-2000; 2000US-0198568P.
PR 02-MAY-2000; 2000US-0201190P.
PR 08-MAY-2000; 2000US-0203111P.
PR 25-MAY-2000; 2000US-0207094P.
XX
PA (PHAA) PHARMACIA & UPJOHN CO.
XX
PI Vogeli G, Wood LS, Parodi LA, Hiebsch RR, Lind P, Slightom J;

PI Schellin KA, Kaytes PS, Bannigan CM, Ruff V, Sejlitz T, Huff RM;
XX
DR WPI; 2001-389826/41.
DR N-PSDB; AAH51008.
XX
PT New G protein-coupled receptor (nGPCR-x) and its encoding polynucleotide
PT useful for diagnosing and treating e.g. schizophrenia.
XX
PS Claim 37; Page 89; 261pp; English.
XX
CC The present invention relates to novel G protein-coupled receptors
CC (nGPCRx; where x is 1, 3, 4, 5, 9, 11, 12, 14-18, 20, 21, 22, 24, 27, 28,
CC 31-38, 40, 41, 53-60) and their coding sequences. The present sequence is
CC one such G protein-coupled receptor. GPCRs are also known as seven
CC transmembrane receptors and function in signal transduction. The nGPCRx
CC coding sequences are useful for screening a human to diagnose a disorder
CC affecting the brain or a genetic predisposition, specifically
CC schizophrenia. nGPCRx are useful for identifying compounds useful for
CC treating schizophrenia. Detection of nGPCRx in a sample is useful as a
CC diagnostic tool for diseases or disorders e.g. thyroid disorders, renal
CC failure, rheumatoid arthritis, CNS disorders, infections such as HIV-1,
CC metabolic and cardiovascular diseases, proliferative disorders and
CC hormonal disorders. Modulators of nGPCRx activity have the utility for
CC treating neurological disorders, including schizophrenia, ADHD/ADD
CC (attention deficit-hyperactivity disorder/attention deficit disorder),
CC and neuronal disorders such as Alzheimer's disease, Parkinson's disease,
CC migraine and senile dementia. Additional disorders include inflammatory
CC conditions (e.g. Crohn's disease), rheumatoid arthritis, autoimmune
CC disorders, cancers, respiratory ailments such as asthma, and inflammatory
CC diseases e.g. inflammatory bowel disease
XX
SQ Sequence 346 AA;

Query Match 100.0%; Score 1853; DB 4; Length 346;
Best Local Similarity 100.0%; Pred. No. 5.9e-199;
Matches 346; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60

Qy         61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120

Qy        121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180

Qy        181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240

Qy        241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300

Qy        301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
              ||||||||||||||||||||||||||||||||||||||||||||||
Db        301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
```

Sequence Comparison 'B'

```
RESULT 4
AAU04373
ID   AAU04373 standard; protein; 346 AA.
XX
AC   AAU04373;
XX
DT   23-OCT-2001  (first entry)
XX
DE   Human G-protein coupled receptor, hRUP19.
XX
KW   Human; G-protein coupled receptor; GPCR; hRUP19; agonist;
KW   inverse agonist; lung cancer.
XX
OS   Homo sapiens.
XX
PN   WO200136471-A2.
XX
PD   25-MAY-2001.
XX
PF   16-NOV-2000; 2000WO-US031509.
XX
PR   17-NOV-1999;   99US-0166088P.
PR   17-NOV-1999;   99US-0166099P.
PR   17-NOV-1999;   99US-0166369P.
PR   23-DEC-1999;   99US-0171900P.
PR   23-DEC-1999;   99US-0171901P.
PR   23-DEC-1999;   99US-0171902P.
PR   11-FEB-2000; 2000US-0181749P.
PR   14-MAR-2000; 2000US-0189258P.
PR   14-MAR-2000; 2000US-0189259P.
PR   10-APR-2000; 2000US-0195898P.
PR   10-APR-2000; 2000US-0195899P.
PR   10-APR-2000; 2000US-0196078P.
PR   28-APR-2000; 2000US-0200419P.
PR   12-MAY-2000; 2000US-0203630P.
PR   12-JUN-2000; 2000US-0210741P.
PR   12-JUN-2000; 2000US-0210982P.
PR   21-AUG-2000; 2000US-0226760P.
PR   26-SEP-2000; 2000US-0235418P.
PR   26-SEP-2000; 2000US-0235779P.
PR   20-OCT-2000; 2000US-0242332P.
PR   20-OCT-2000; 2000US-0242343P.
PR   24-OCT-2000; 2000US-0243019P.
XX
PA   (AREN-) ARENA PHARM INC.
XX
PI   Chen R,  Dang HT,  Lowitz KP;
XX
DR   WPI; 2001-355616/37.
DR   N-PSDB; AAS07946.
XX
PT   Endogenous and non-endogenous versions of human G-protein coupled
PT   receptors for direct identification of candidate compounds as agonists,
PT   inverse agonists or partial agonists for use as therapeutic agents.
XX
PS   Claim 45; Page 110-111; 160pp; English.
XX
CC   The sequence represents a human G-protein coupled receptor (GPCR),
CC   hRUP19. The endogenous and non-endogenous, constitutively activated
CC   versions of human G-protein coupled receptors (GPCR), are useful for
CC   direct identification of candidate compounds as receptor agonists,
CC   inverse agonists or partial agonists having applicability as therapeutic
CC   agents for treating diseases related to GPCR, e.g. lung cancer. Non-
CC   endogenous version of human GPCRs are also utilized in research settings
CC   and in vitro and in vivo system, incorporating GPCRs can be utilised to
CC   elucidate and understand the roles these receptors play in the human
CC   condition, both normal and diseased
XX
SQ   Sequence 346 AA;

  Query Match             100.0%;  Score 1853;  DB 4;  Length 346;
  Best Local Similarity   100.0%;  Pred. No. 5.9e-199;
  Matches  346;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60

Qy         61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120

Qy        121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180

Qy        181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240

Qy        241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300

          301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
              ||||||||||||||||||||||||||||||||||||||||||||||
Db        301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
```

Sequence Comparison C'

RESULT 3
AAU06197
ID AAU06197 standard; protein; 346 AA.
XX
AC AAU06197;
XX
DT 19-DEC-2001 (first entry)
XX
DE Novel human G protein-coupled receptor (GPCR) protein.
XX
KW Human; G-protein coupled receptor; GPCR; chemokine receptor; protease;
KW hyperproliferative disorder; neurological disorder; psychiatric disease;
KW inflammatory disorder; respiratory disorder.
XX
OS Homo sapiens.
XX
PN WO200173029-A2.
XX
PD 04-OCT-2001.
XX
PF 27-MAR-2001; 2001WO-US009522.
XX
PR 27-MAR-2000; 2000US-0192419P.
PR 06-SEP-2000; 2000US-0230459P.
PR 20-SEP-2000; 2000US-00666535.
XX
PA (PEKE) PE CORP NY.
XX
PI Ye J, Cravchik A, Di Francesco V, Beasley EM;
XX
DR WPI; 2001-616503/71.
DR N-PSDB; AAS12581.
XX
PT Novel human G-protein coupled receptor proteins and nucleic acid
PT molecules encoding the protein for use in developing human therapeutics
PT and diagnostic compositions and for identifying modulators of the
PT protein.
XX
PS Claim 1; Fig 1; 66pp; English.

XX
CC The present invention relates to the isolation of a novel human G-protein
CC coupled receptor (GPCR) which is related to the chemokine receptor
CC subfamily. The cDNA and gene sequences encoding for GPCR are also given
CC in the invention. The sequences of the invention are useful for
CC diagnosing and treating diseases or conditions mediated by human
CC proteases. Such diseases include hyperproliferative disorders (e.g.
CC hyperplasia), neurological disorders (e.g. Parkinson's disease),
CC psychiatric diseases (e.g. schizophrenia), inflammatory disorders (e.g.
CC diabetes) and respiratory disorders (e.g. adult respiratory distress
CC syndrome, ARDS). The GPCR protein is also useful for identifying a
CC modulator of the expression of the protein. It also serves as a target
CC for identifying agents for use in mammalian therapeutic applications,
CC e.g. a human drug, particularly modulating a biological or pathological
CC response in a cell or tissue that expresses the protein, in biological
CC assays related to GPCRs that are related to members of the chemokine
CC receptor subfamily, in drug screening assays and in competition binding
CC assays. GPCR is also useful in diagnosing a disease or predisposition to
CC a disease mediated by the peptide, in pharmacogenomic analysis. The
CC polynucleotide sequences can also be used in gene therapy. The present
CC sequence represents the novel human GPCR of the invention
XX
SQ Sequence 346 AA;

```
 Query Match             100.0%;  Score 1853;  DB 4;  Length 346;
 Best Local Similarity   100.0%;  Pred. No. 5.9e-199;
 Matches  346;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60

Qy         61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120

Qy        121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180

Qy        181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240

Qy        241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300

Qy        301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
              ||||||||||||||||||||||||||||||||||||||||||||||
Db        301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
```

Sequence Comparison D'

RESULT 2
ABB44522
ID ABB44522 standard; protein; 346 AA.
XX
AC ABB44522;
XX
DT 28-JAN-2002 (first entry)
XX
DE Human GPCR1a polypeptide SEQ ID NO 2.
XX
KW Human; GCPR; G-coupled protein-receptor; cardiant; antiarteriosclerotic;
KW anabolic; cytostatic; antiviral; gene therapy; cardiomyopathy; obesity;
KW anorexia; diabetes; osteoporosis; Crohn's disease; multiple sclerosis;
KW asthma; Alzheimer's disease; Parkinson's disorder; Huntington's disease;
KW infection; human immunodeficiency virus; HIV.
XX
OS Homo sapiens.
XX
PN WO200174904-A2.
XX
PD 11-OCT-2001.
XX
PF 30-MAR-2001; 2001WO-US010241.
XX
PR 31-MAR-2000; 2000US-0193664P.
PR 05-APR-2000; 2000US-0194614P.
PR 06-APR-2000; 2000US-0195063P.
PR 06-APR-2000; 2000US-0195066P.
PR 06-APR-2000; 2000US-0195067P.
PR 06-APR-2000; 2000US-0195068P.
PR 06-APR-2000; 2000US-0195069P.
PR 06-APR-2000; 2000US-0195070P.
PR 06-APR-2000; 2000US-0195510P.
PR 06-APR-2000; 2000US-0219855P.
PR 21-JUL-2000; 2000US-0221284P.
PR 27-JUL-2000; 2000US-0221325P.
PR 28-JUL-2000; 2000US-0224588P.
PR 11-AUG-2000; 2000US-0239613P.
PR 11-OCT-2000; 2000US-0262508P.
PR 18-JAN-2001; 2001US-0263433P.
PR 23-JAN-2001; 2001US-0263604P.
PR 23-JAN-2001; 2001US-0265161P.
PR 30-JAN-2001; 2001US-00823172.
PR 29-MAR-2001; 2001US-00823172.
XX
PA (CURA-) CURAGEN CORP.
XX
PI Majumder K, Vernet CAM, Casman SJ,
PI Padigaru M, Mishnu VS, Tchernev VT,
PI Gusev VY;
XX
DR WPI; 2001-639351/73.
DR N-PSDB; ABA81529, ABA81530.
XX
PT New human G-protein coupled receptor X, GPCRX, polypeptide useful in
PT treatment or prevention of GPCRX associated disorders e.g. cardiomyopathy
PT or atherosclerosis, and to screen for antagonists and agonists useful
PT therapeutically.
XX
PS Claim 1; Page 8; 157pp; English.
XX
CC The invention relates to nucleic acid sequences (ABA81529-ABA81552) that
CC encode G-coupled protein-receptor related polypeptides (ABB44522-
CC ABB44543). The isolated polypeptide having a sequence differing by no
CC more than 15 % of amino acid residues from one of 22 amino acid sequences
CC (or mature forms of the sequences), fully defined in the specification
CC and corresponding to human G-protein coupled receptor X (GPCRX)
CC polypeptides. The polypeptides have potential cardiant,
CC antiarteriosclerotic, anabolic, cytostatic and antiviral activity. The
CC polypeptides can be administered therapeutically, especially using gene
CC therapy and expressing the encoding DNA in vivo, to treat or prevent
CC GPCRX-associated disorders, especially in humans. For example, they can
CC be used to treat/prevent cardiomyopathy, atherosclerosis, disorders
CC related to signal processing and metabolic pathway modulation (e.g.
CC obesity, anorexia), diabetes, osteoporosis, Crohn's disease, multiple
CC sclerosis, asthma, cancers, neurodegenerative disorders (e.g. Alzheimer's
CC disease, Parkinson's disorder, Huntington's disease), immune disorders,
CC haematopoietic disorders, developmental diseases, neurological disorders,
CC bacterial, fungal, protozoal and viral infections (e.g. with human
CC immunodeficiency virus (HIV)-1 or HIV-2). They can be used diagnostically
CC to determine the presence of or predisposition to a disease associated
CC with altered levels of the polypeptide in mammals (especially humans) by
CC detecting alterations in polypeptide expression levels relative to
CC control samples. They are useful to identify agents binding polypeptide
CC (e.g. cellular receptors or downstream effectors) and/or agents
CC modulating cellular polypeptide expression or activity, useful as
CC antagonists and agonists in disease treatment
XX
SQ Sequence 346 AA;

Query Match 100.0%; Score 1853; DB 4; Length 346;
Best Local Similarity 100.0%; Pred. No. 5.9e-199;
Matches 346; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60
Db       1 MYNGSCCRIEGDTISQVMPPLLIVAFVLGALGNGVALCGFCFHMKTWKPSTVYLFNLAVA 60

Qy      61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120
Db      61 DFLLMICLPFRTDYYLRRRHWAFGDIPCRVGLFTLAMNRAGSIVFLTVVAADRYFKVVHP 120

Qy     121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180
Db     121 HHAVNTISTRVAAGIVCTLWALVILGTVYLLLENHLCVQETAVSCESFIMESANGWHDIM 180

Qy     181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240
Db     181 FQLEFFMPLGIILFCSFKIVWSLRRRQQLARQARMKKATRFIMVVAIVFITCYLPSVSAR 240

Qy     241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300
Db     241 LYFLWTVPSSACDPSVHGALHITLSFTYMNSMLDPLVYYFSSPSFPKFYNKLKICSLKPK 300

Qy     301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
Db     301 QPGHSKTQRPEEMPISNLGRRSCISVANSFQSQSDGQWDPHIVEWH 346
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